AUTHOR INDEX

- Alvarez-Buylla, R. and De Alvarez-Buyla, E.R., Carotid sinus receptors participate in glucose homeostatis, 347
- Andronikou, S., Shirahata, M., Mokashi, A. and Lahiri, S., Carotid body chemoreceptor and ventilatory responses to sustained hypoxia and hypercapnia in the cat, 361
- Band, D.M. and Linton, R.A.F., The effect of hypoxia on the response of the carotid body chemoreceptor to potassium in the anaesthetized cat, 295
- Band, D.M., see Sneyd, J.R., 59
- Banner, N.R., see Shea, S.A., 131
- Banzett, R.B., see Butler, J.P., 241
- Baudinette, R. V., Gannon, B.J., Ryall, R.G. and Frappell, P.B., Changes in metabolic rates and blood respiratory characteristics during pouch development of a marsupial, *Macropus eugenii*, 219
- Bucher, S., see Faridy, E.E., 171, 187
- Burr, D. and Sinclair, J. D., The effect of adenosine on respiratory chemosensitivity in the awake rat, 47
- Butler, J.P., Banzett, R.B. and Fredberg, J.J., Inspiratory valving in avian bronchi: aerodynamic considerations, 241
- Cherniack, N.S., see Van Lunteren, E., 303
- Coleridge, H.M., see Jonzon, A., 19
- Coleridge, H. M., see Roberts, A. M., 35
- Coleridge, J.C.G., see Jonzon, A., 19
- Coleridge, J.C.G., see Roberts, A.M., 35
- Cross, C.E., see Hornof, W.J., 375
- Daniel, E. E., see Mansour, S., 283
- De Alvarez-Buyla, E.R., see Alvarez-Buylla, R., 347
- Derenne, J.-Ph., see Whitelaw, W.A., 151
- Dick, T.E., see Van Lunteren, E., 303
- Douse, M.A. and Mitchell, G.S., Temperature effects on CO₂-sensitive intrapulmonary

- chemoreceptors in the lizard, Tupinambis nigropunctatus, 327
- Faridy, E.E. and Bucher, S., Maternal lung growth in surgically reduced litter size pregnancy, 187
- Faridy, E.E., Bucher, S. and Sanii, M.R., Relationship between maternal and fetal lung growth, 171
- Faridy, E.E., Sanii, M.R. and Thliveris, J.A., Influence of maternal pneumonectomy on fetal lung growth, 195
- Feder, M. E., Full, R.J. and Piiper, J., Elimination kinetics of acetylene and Freon 22 in resting and active lungless salamanders, 229
- Fisher, J.T., see Waldron, M.A., 271
- Fisher, P., see Hornof, W.J., 375
- Frappell, P.B., see Baudinette, R.V., 219
- Fredberg, J.J., see Butler, J.P., 241
- Frisancho, A.R., Origins of differences in hemoglobin concentration between Himalayan and Andean populations, 13
- Full, R.J., see Feder, M.E., 229
- Gannon, B.J., see Baudinette, R.V., 219
- Gunther, R.A., see Hornof, W.J., 375
- Guz, A., see Shea, S.A., 131
- Hakim, T. S. and Macek, A. S., Role of erythrocyte deformability in the acute hypoxic pressor in the pulmonary vasculature, 95
- Hakim, T.S. and Malik, A.B., Hypoxic vasoconstriction in blood and plasma perfused lungs, 109
- Haxhiu, M. A., see Van Lunteren, E., 303
- Heaton, R., see Shea, S.A., 131
- Hook, C., Yamaguchi, K., Scheid, P. and Piiper, J., Oxygen transfer of red blood cells: experimental data and model analysis, 65
- Hoppeler, H., see Hudlicka, O., 1
- Horner, R.L., see Shea, S.A., 131
- Hornof, W.J., O'Callaghan, M.W., Gunther,

R. A., Howard, R., Fisher, P., Raabe, O. and Cross, C. E., Lung clearance of ^{99m}Tc-DTPA aerosol in conscious sheep, 375

Howard, R., see Hornof, W.J., 375

Huang, S.Y., McCullough, R.E., McCullough, R.G., Micco, A.J., Manco-Johnson, M., Weil, J.V. and Reeves, J.T., Usual clinical dose of acetazolamide does not alter cerebral blood flow velocity, 315

Hudlicka, O., Wright, A.J.A., Hoppeler, H. and Uhlmann, E., The effect of chronic bradycardial pacing on the oxidative capacity in rabbit hearts, 1

Jonzon, A., Pisarri, T.E., Roberts, A.M., Coleridge, J.C.G. and Coleridge, H.M., Attenuation of pulmonary afferent input by vagal cooling in dogs, 19

Juarbe, C. and Sillau, A. H., Muscle capillarity in rats with increased blood oxygen affinity, 83

Lahiri, S., see Andronikou, S., 361

Lahive, K. C., Weiss, J. W. and Weinberger, S. E., Low dose aminophylline selectively increases upper airway motor activity in normals, 163

Linton, R.A.F., see Band, D.M., 295 Linton, R.A.F., see Sneyd, J.R., 59

Macek, A.S., see Hakim, T.S., 95

Malik, A.B., see Hakim, T.S., 109 Manco-Johnson, M., see Huang, S.Y., 315

Mansour, S. and Daniel, E. E., Structural changes in tracheal nerves and muscle associated with *in vivo* sensitization of guinea pigs, 283

McBride, B., see Whitelaw, W.A., 151

McCullough, R.E., see Huang, S.Y., 315

McCullough, R.G., see Huang, S.Y., 315

McKenzie, E., see Shea, S.A., 131

Micco, A.J., see Huang, S.Y., 315

Mitchell, G.S., see Douse, M.A., 327

Mokashi, A., see Andronikou, S., 361

Noble, S., see Whitelaw, W.A., 151

O'Callaghan, M.W., see Hornof, W.J., 375

Paiva, M., Verbanck, S. and Van Muylem, A., Diffusion-dependent contribution to the slope of the alveolar plateau, 257

Patrick, J.M., see Western, P.J., 123

Piiper, J., see Feder, M.E., 229

Piiper, J., see Hook, C., 65

Pisarri, T. E., see Jonzon, A., 19

Prabhakar, N.R., see Van Lunteren, E., 303

Raabe, O., see Hornoff, W.J., 375

Rahn, H., Air cell gas tensions of the chick embryo at sea level and altitude: the contribution of Aggazzotti, 1914, 343.

Reeves, J.T., see Huang, S. Y., 315

Roberts, A.M., Coleridge, H.M. and Coleridge, J.C.G., Reciprocal action of pulmonary vagal afferents on tracheal smooth muscle tension in dogs, 35

Roberts, A.M., see Jonzon, A., 19

Ryall, R.G., see Baudinette, R.V., 219

Samaja, M., Prediction of the oxygenation of human organs at varying blood oxygen carrying properties, 211

Sanii, M. R., see Faridy, E. E., 171, 195

Scheid, P., see Hook, C., 65

Shea, S.A., Horner, R.L., Banner, N.R., McKenzie, E., Heaton, R., Yacoub, M.H. and Guz, A., The effect of human heart-lung transplantation upon breathing at rest and during sleep, 131

Shirahata, M., see Andronikou, S., 361

Sillau, A. H., see Juarbe, C., 83

Sinclair, J.D., see Burr, D., 47

Sneyd, J.R., Linton, R.A.F. and Band, D.M., Ventilatory effects of potassium during hyperoxia, normoxia and hypoxia in anaesthetized cats, 59

Thliveris, J.A., see Faridy, E.E., 195

Uhlmann, E., see Hudlicka, O., 1

Van Lunteren, E., Prabhakar, N.R., Cherniack, N.S., Haxhiu, M.A. and Dick, T.E., Inhibition of expiratory muscle EMG and motor unit activity during augmented breaths in cats, 303

Van Muylem, A., see Paiva, M., 257 Verbanck, S., see Paiva, M., 257

Waldron, M.A. and Fisher, J.T., Differential effects of CO₂ and hypoxia on bronchomotor tone in the newborn dog, 271

Weil, J. V., see Huang, S. Y., 315

Weinberger, S. E., see Lahive, K. C., 163

Weiss, J.W., see Lahive, K.C., 163

Western, P.J. and Patrick, J.M., Effects of focusing attention on breathing with and without apparatus on the face, 123

Whitelaw, W. A., Derenne, J.-Ph., Noble, S. and McBride, B., Similarities between behavior

of respiratory muscles in breath-holding and in elastic loading, 151

Wright, A.J.A., see Hudlicka, O., 1

Yacoub, M.H., see Shea, S.A., 131 Yamaguchi, K., see Hook, C., 65



SUBJECT INDEX

Acclimatization to high altitude, 1, 315	oxygen affinity, 83, 211, 219
Acetazolamide, 315	oxygen dissociation curve, 211
Acid-base balance	Brain, 211, 315
acidosis, 211	Breath holding, 151
alkalosis, 211	Breathing pattern, 123, 131
Adenosine, 47, 163	
	Breuer-Hering reflexes, 35, 131, 151
Aerosol, 375 Air cell, 343	Carillany singulation 1 92
Air sacs, 241	Capillary circulation, 1, 83 Carbon dioxide
Airway resistance, 271	ventilatory response to -, 47, 361
Allowatic polosions	Carbon anhydrase, 315
Allometric relations	Cardiac muscle, 1
respiratory –, 219	Carotid sinus nerve, 295, 347, 361
Altitude	Catecholamines, 283
high – acclimatization, 1, 315	Cerebral blood flow, 315
Animals	Chemoreceptors
cat, 59, 109, 295, 303, 347, 361	arterial -, 271, 295, 347, 361
chicken, 343	central, 271, 361
dog, 19, 35, 271, 347	Chest wall
guinea-pig, 283	- mechanics, 123
humans, 13, 65, 123, 131, 151, 163, 211, 257, 315	Compliance
lizard, 327	lung -, 271
marsupials, 219	Conductance, 343
pig, 109	Control of breathing, 47, 59, 131, 151, 303
rabbit, 1	breath holding, 151
rat, 47, 83, 95, 109, 171, 187, 185, 347	breathing patterns, 123, 131
salamander, 229	Breuer-Hering reflexes, 35, 131, 151
sheep, 259, 375	carbon dioxide
Apnea, 163	ventilatory response to -, 47, 361
Atropine, 271	chemoreceptors
Avian embryo, 343	arterial, 271, 295, 347, 361
	central, 271, 361
Birds	- in muscular exercise, 59
respiration in -, 343	respiratory centers, 47
Blood flow	Coronary blood flow, 1
cerebral -, 315	Cutaneous respiration, 229
coronary -, 211	
in pulmonary artery, pressure-flow characteris-	Diaphragm, 163
tics, 109	Diffusion
- in tissue, 1, 211	- of gases, 65, 229, 257
Blood gas	Diphosphoglycerate, 211, 219
2,3-diphosphoglycerate, 211, 219	DNA, 171, 187, 195

Egg shell, 343
Egg's incubation, 343
Electromyogram, 303
Exercise, muscular, 229
control of breathing, 59
Extraction coefficient, 1

Facilitated diffusion, 65
Fatigue, 151
Fetus lung, 171, 187, 195
- oxygen consumption, 171
Frequency of breathing, see Breathing pattern

Glucose, 347 Growth, 171, 187, 195

Heart, 1, 131, 211
Helium
— washout, 257
Hemoglobin, 1
oxyhemoglobin, 65, 83
Hering-Breuer reflexes, 35, 131, 151
Heymans-type chemoreceptors, 271, 295, 347, 361
Hypercapnia, 315, 327
Hypoxia, 83, 315
altitude, 1, 315
pulmonary circulation, 95, 109

Intercostal muscles, 303
Intrapulmonary CO₂ receptors, 327

Kidney, 211
Kinetics of combination of gas with blood, 65

Liver, 347
Lung, 131
compliance, 271
- growth, 171, 187, 195
mechanoreceptors, 19, 35
receptors, 131
volume, 171, 257
washout, 257

Mechanical loading, 151
Mechanics of breathing, 241
airway resistance, 271
chest wall, 123
pulmonary compliance, 271
Mitochondrion, 1
Mountain sickness, 315
Muscle
respiration of skeletal, 83
Muscular exercise, see Exercise, muscular
Myocardium, see Cardiac muscle

Newborn, 171, 187, 195, 211, 271

Oxygen, see Altitude, Blood gas, Diffusion, Hypoxia, Techniques and Tissue respiration Oxygen consumption, 1, 211, 219 maximal -, 1
Oxygen dissociation curve, 211
Oxygen extraction, 1

P₅₀, 83, 211, 219
Parabronchial lung, 241, 343
pH, see Acid-base balance
Placenta, 171, 187, 195
Potassium, 59, 295
Pregnancy, 171, 187, 195
Prostaglandins, 109
Pulmonary circulation, 95, 109
pressure-flow characteristics, 109
Pulmonary receptors, 19, 35

Red blood cell, 65, 95
Regulation of Respiration, see Control of breathing
Respiration in wakefulness, 131
Respiratory centers, 47
Respiratory frequency, see Breathing pattern
Respiratory reflexes
- of Breuer-Hering, 35, 131, 151
Respiratory stimuli, see also Control of breathing

Sleep
respiration in -, 131, 163
Smooth muscle, 35, 95, 163, 271, 283
Stretch receptors, 19, 35
Sulfur hexafluoride, 257

Temperature, 327
Theophylline, 163
Thromboxane, 109
Tidal volume, see Breathing pattern and Lung, volume
Tissue respiration, 1, 83
Trachea, 35
Transplantation, 131

Unstirred layer, 65

Vagal afferents, 19, 35
Vagus nerve
block or section of -, 131, 271
Ventilatory response to hypercapnia, 47, 361, 315, 327
Ventilatory response to hypoxia, 59, 95, 109, 361

